

Claims

- [c1] 1. An optical storage medium reading device, comprising:
an optical storage module, having an optical storage medium therein;
a light-switching module, for selecting a final light source according to the optical storage medium and projecting the light from the final light source outward;
a wave-distance-dividing module, for dividing the selected final light source into equidistant light sources and projecting the light sources onto the optical storage medium; and
an optical sensor module, for identifying data on the optical storage medium according to the light wave reflected from the optical storage medium inside the optical storage module.
- [c2] 2. The device of claim 1, wherein the wavelength of one of the final light sources is 650nm.
- [c3] 3. The device of claim 1, wherein the wavelength of one of the final light sources is 780nm.
- [c4] 4. The device of claim 1, wherein the distance of separa-

tion of the light sources after the final light source is divided by the wave-distance-dividing module is $0.74\mu\text{m}$.

[c5] 5. The device of claim 1, wherein the distance of separation of the light sources after the final light source is divided by the wave-distance-dividing module is $1.6\mu\text{m}$.

[c6] 6. The device of claim 1, wherein the device further comprises an alignment module for receiving light from the wave-distance-dividing module and projecting the light onto the optical storage medium.

[c7] 7. The device of claim 1, wherein the device further comprises an alignment module for receiving light reflected from the optical storage medium and projecting the reflected light onto the optical sensor module.

[c8] 8. The device of claim 7, wherein the alignment module further comprises a plurality of spherical lenses for focusing the reflected light onto a plurality of optical sensor cells on the optical sensor module.

[c9] 9. The device of claim 1, wherein the device further comprises a micro-adjusting module for shifting the optical sensor module so that light reflected from the optical storage medium can focus accurately onto the optical sensor cells of the optical sensor module.

[c10] 10. The device of claim 1, wherein the optical sensor module further comprises a plurality of concave lenses for magnifying light falling on the optical sensor module to an image that targets various optical sensor cells on the optical sensor module is produced.

[c11] 11. The device of claim 1, wherein the light-switching module adjusts according to a type of final light source selected and the location of the light sources according to the signal from the micro-adjusting module.